

Equine Research Priorities

Nathaniel A. White DVM MS ACVS

Jean Ellen Shehan Professor and Director

Marion duPont Scott Equine Medical Center

VMRCVM-Virginia Tech

Leesburg, Virginia



Establishing Equine Research Priorities

- Owner-veterinarian perception of horse well-being and horse loss
- Industry and research foundation surveys and workshops
- Industry demand for vaccines, drugs and performance
- USDA APHIS--NAHMS disease surveys



Research Foundations

- **Morris Animal Foundation**- Research that is likely to produce an immediate beneficial outcome for individual animals or populations of animals. The Foundation is especially interested in addressing those diseases/issues that cause morbidity or mortality for the greatest number of animals.
- Recent funding: colic, lameness (laminitis, arthritis), respiratory (especially foal pneumonia), general inflammation, and genetics.
- **AAEP**- Will fund targeted research based on proposal and member priorities.

Research Foundations

- [American Quarter Horse Association-](#) American Quarter Horse Foundation encourages the submission of a diverse range of research projects related to the health, welfare and utility of the horse, and of importance to the horse owner and horse industry. Funding decisions will be based on scientific merit, clinical application and or potential benefit to the horse and horse industry.
- [Grayson Jockey Club Research Foundation-](#) Grayson-Jockey Club Research Foundation is the leading source of private funding for equine medical research that benefits all breeds. Recent areas of research include musculoskeletal, cardio-pulmonary, reproductive, infectious diseases, gastrointestinal.

Racing Medication and Testing Consortium

- Elimination studies on drugs deemed therapeutic to the racehorse to determine viable withdrawal times and screening limits for regulatory control;
- Pharmacokinetic studies on intra-articular administration of corticosteroids;
- Development of new testing methodologies for drugs of abuse in racing. Particular focus on proteomics.

AAEP Member Survey: Rating of Research Importance by Body System

- Body System Priority
 - Musculoskeletal-59%
 - Gastrointestinal-45%
 - Respiratory System-31%
 - Endocrine-33%
 - Nervous=17%
- Body System Priority
 - Urogenital-9%
 - Integument-7%
 - Cardiovascular7%
 - Special Senses-8%

572 members of 6717 with email participated in the study:
46% were in practice for 20 or more years.

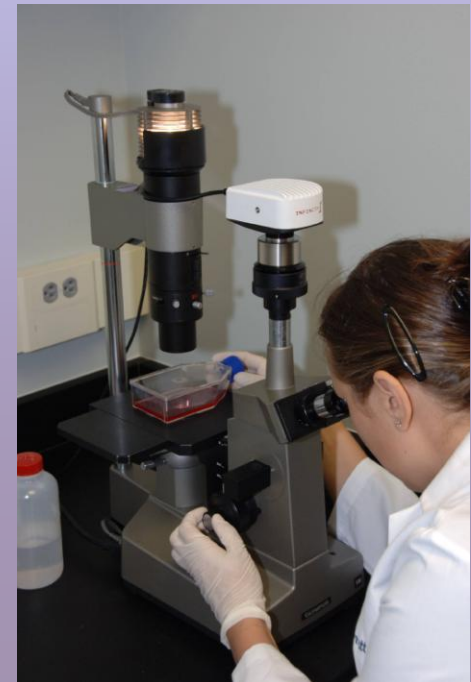
AAEP Member Survey: Importance by Disease Category*

- Laminitis-63%
- Colic-52%
- Arthritis-49%
- Tendon injuries-44%
- Navicular disease-36%
- Racing injuries-34%
- Suspensory Injuries-32%
- Foot problems-31%
- Osteochondritis dissecans-28%
- Rhinopneumonitis-26%
- Recurrent lower airway disease-24%
- Foal pneumonia-23%

*From a list of 47 disease categories

AAEP Member Survey: Needed Technology

- Horse side laboratory tests-71%
- Regenerative medicine-64%
- Imaging-53%
- Genetic testing-39%
- Vaccines-39%



AAEP Member Survey: Participation

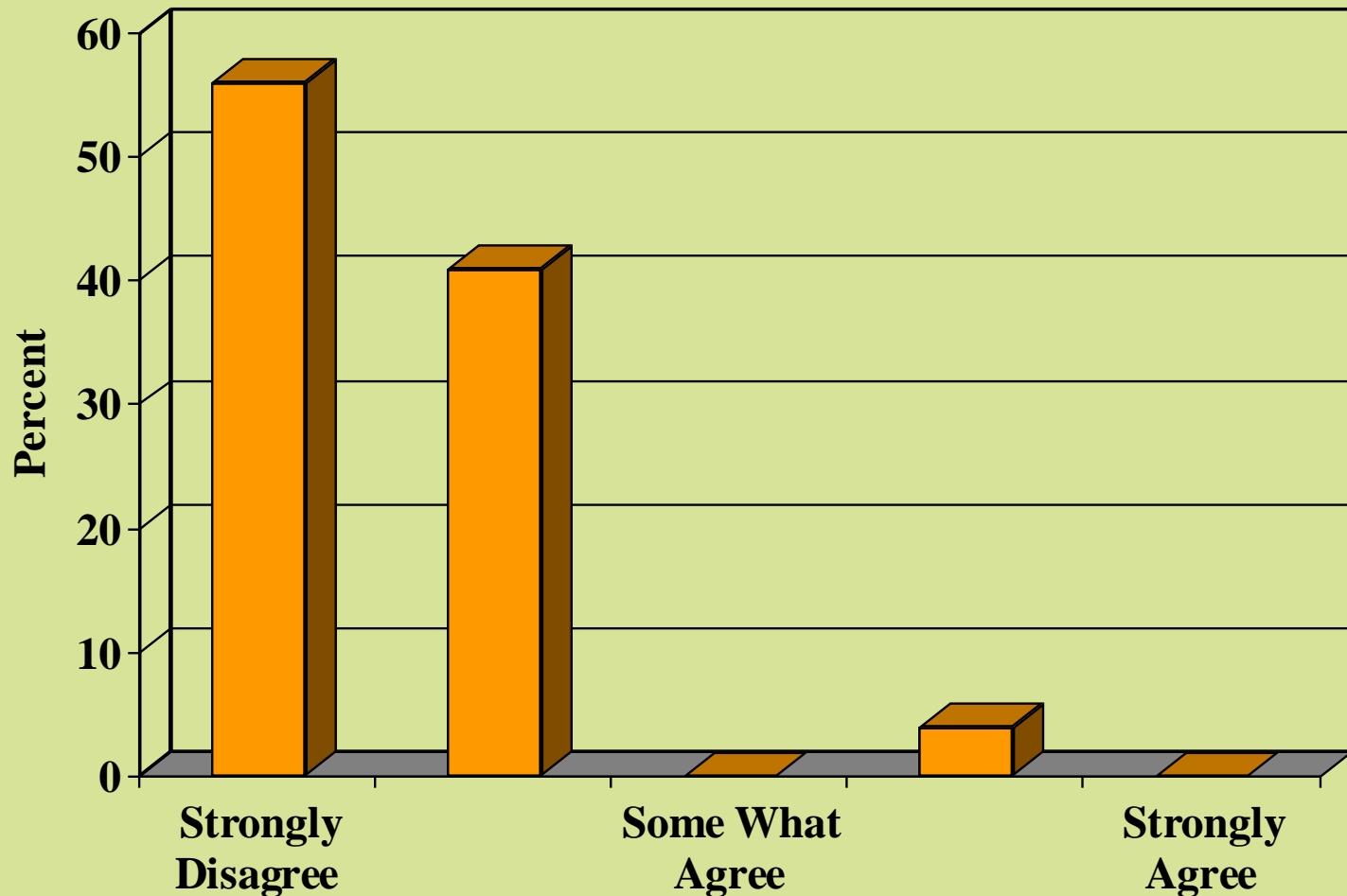
- 71% of responding practitioners said they are willing to record research data from their cases.
- Method of entry
 - Website 51%
 - Computer data base-32%
 - Written data sheet-13%

Herd vs. Individual Health Research Priority

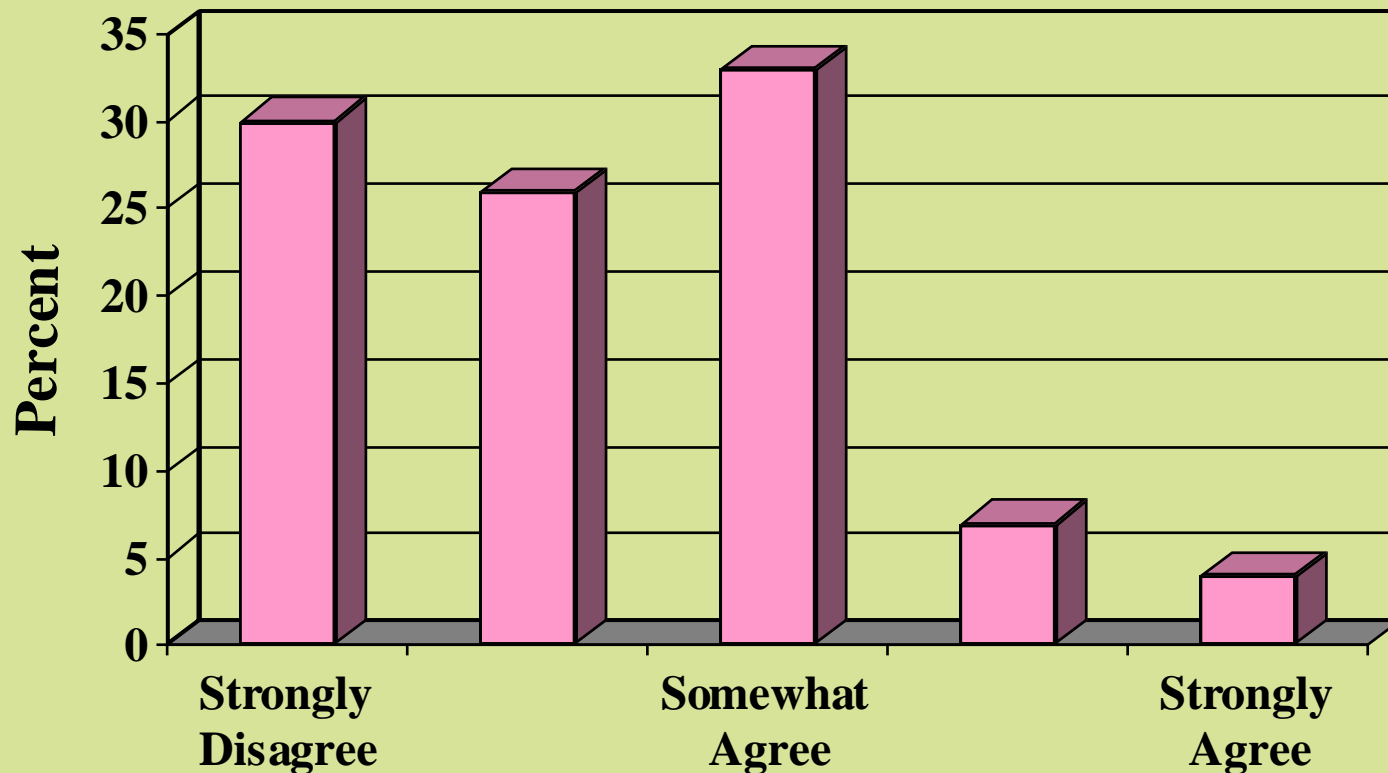
- **Owner priority:** individual horse use and mortality.
- **Veterinarian priority:** focused on disease morbidity and mortality which is based primarily on individual horse problems.
- **Regulatory priority:** focused on communicable diseases in groups of horses.



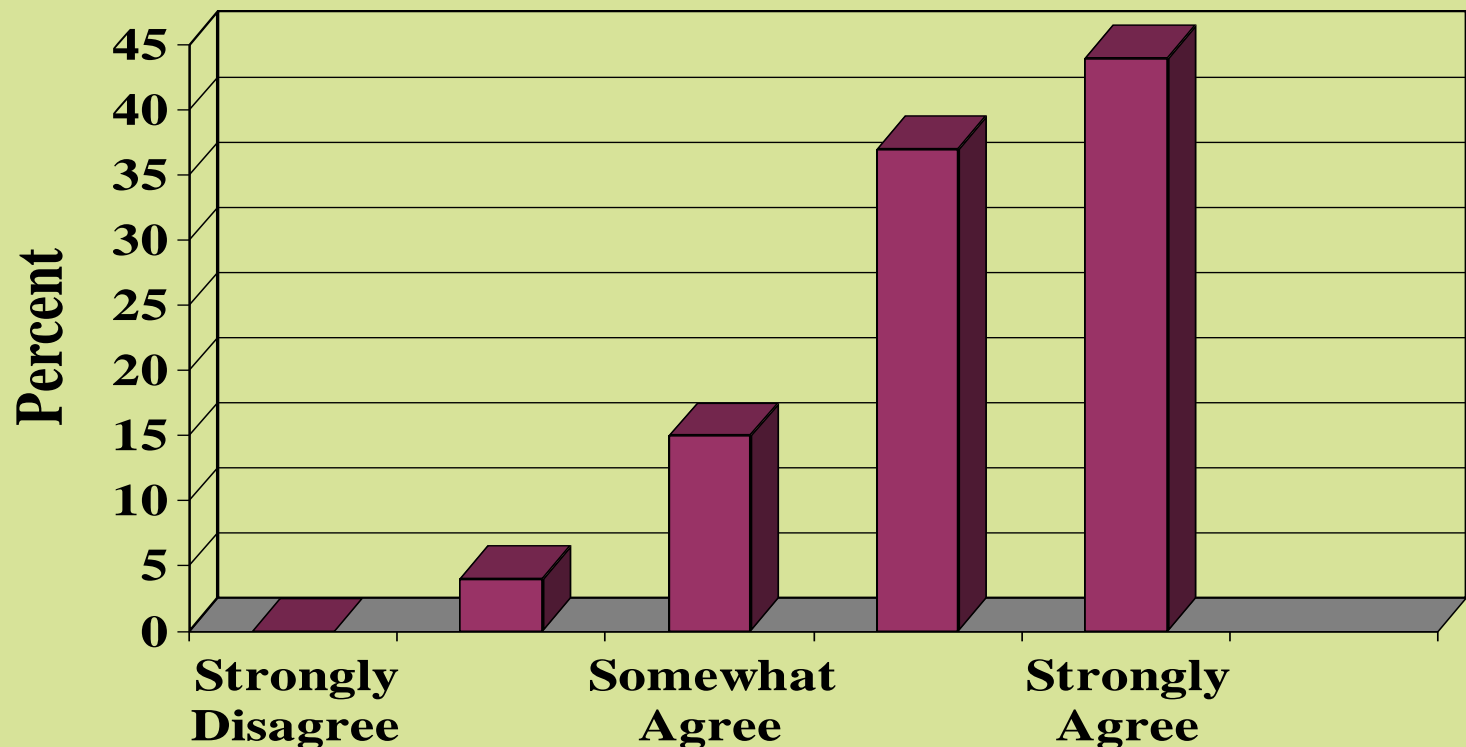
The Current Level of Equine Research is Adequate for the Industry



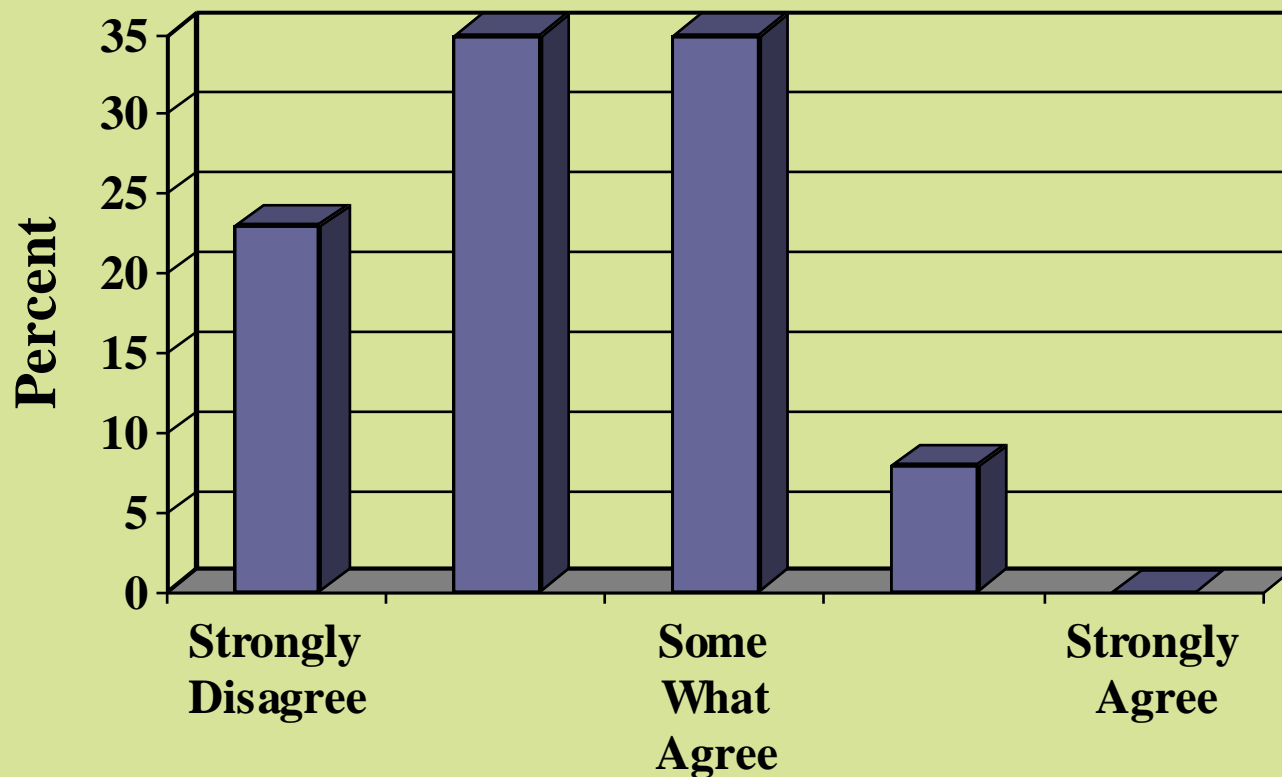
There Should be an Organization Responsible for Coordinating and Planning Equine Research



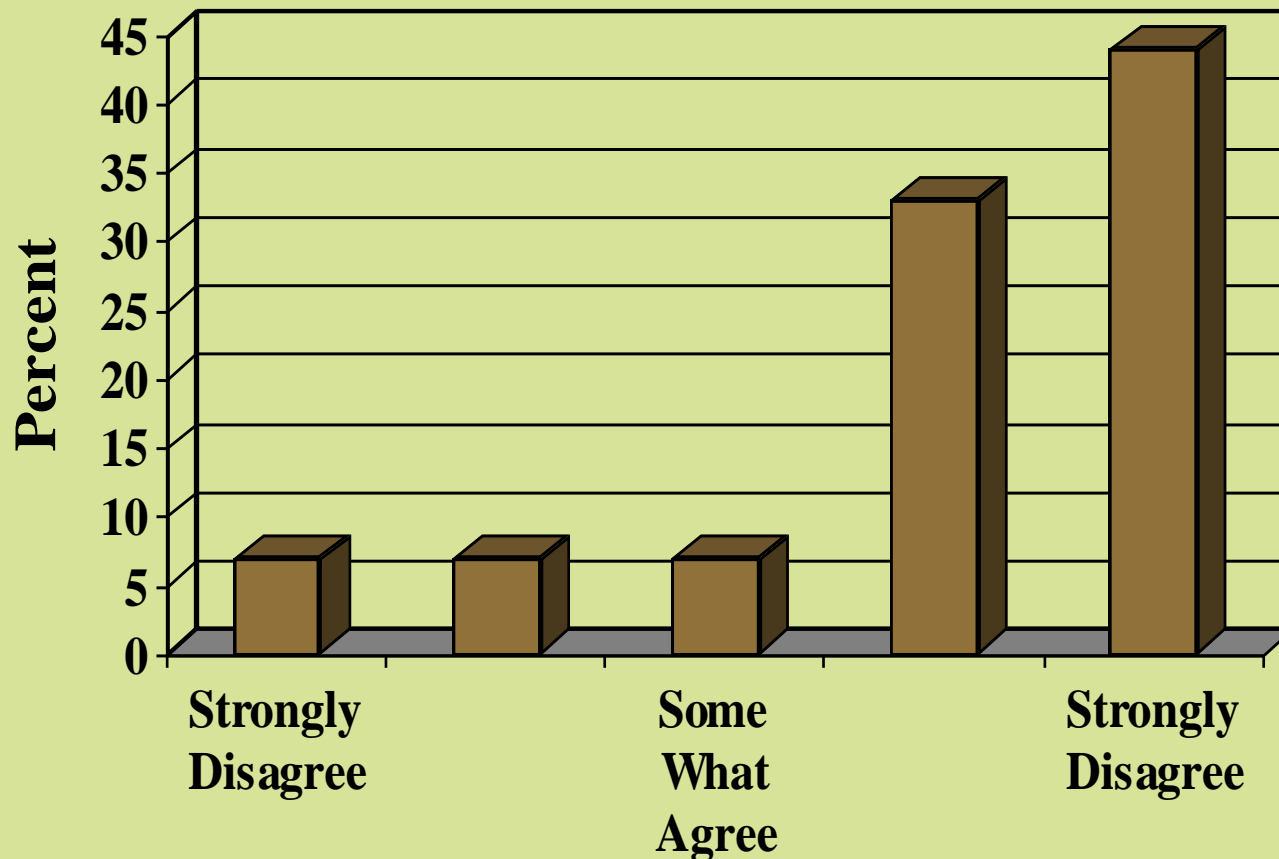
Equine Research Would Benefit from Long Range Planning and Forecasting



The Supply of Quality Researchers Meets the Needs of Equine Research



Create a Universal Database to Estimate Disease Frequency and Impact



What is the Current Research Environment?

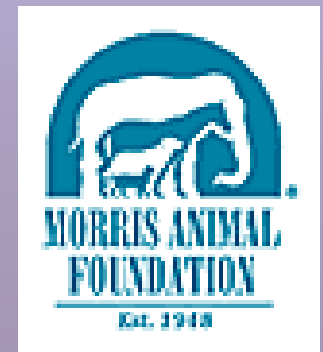
- Not enough funding
- Increased costs for technology
- New graduates have less interest in research
- Overhead cost is required by universities
- Research programs can't maintain momentum

Equine Research Summit: Recommendations

- Increase research funding
- Owner education
- Disease and cost analysis database
- Human resource needs and solutions
- Program funding (continuity of funding for equine research)

Where Does the Money Come From?

- Research Foundations
- Universities
- State racing funds
- Pharmaceutical companies
- Private Support
- USDA



Are Horse Owners Willing to Fund Equine Research?

- No unified message about the need for research.
- No clear message about what can be accomplished
- No good information about the real cost.
- No clear message about the success of research.

Equine Research Coordination Group

- Consortium of Foundations and Equine Research Programs at Universities
- Promotes the need for research
- Collaborative research for emerging problems
- Sharing of current research funding results

Current Research



- Currently funded research
- Not yet completed or published
- Brief summary of the research
- Lists primary investigator and funding agency

Other Challenges for Research

- Each day every horse produces
 - 31 pounds of manure
 - 18 pound of urine
- Equals 81 million tons of manure annually.
- Nutritional research can reduce nutrient excretion

